

EPSON

32KB
Parallel Interface Card

C82310 *

English
Deutsch
Français
Español
Italiano

4000402
S01-00

FCC COMPLIANCE STATEMENT FOR AMERICAN USERS

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

FOR CANADIAN USERS

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Class B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada,

WARNING

The connection of a non-shielded printer interface cable to this printer will invalidate the FCC Certification of this device and may cause interference levels which exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shield equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces. Seiko Epson Corporation shall not be liable against any damages or problems arising from the use of any options or any consumable products other than those designated as Original Epson Products or Epson Approved Products by Seiko Epson Corporation.

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**32KB Parallel Interface Card
C82310***

English

**32-KB-Schnittstellenkarte
C82310***

Deutsch

**Carte d'Interface parallèle 32Ko
C82310***

Français

**Módulo de interface en
paralelo de 32KB
C82310***

Español

**Scheda dell'interfaccia
parallela da 32KB
C82310***

Italiano

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INTRODUCTION

The Parallel Interface C82310* is an interface card that allows parallel data communication between a host computer and an Epson printer.

This card has the following features:

- Ž A 32 Kbyte buffer that frees up your computer for other uses while your printer continues to print
- Ž A self-test function that can help solve interface problems

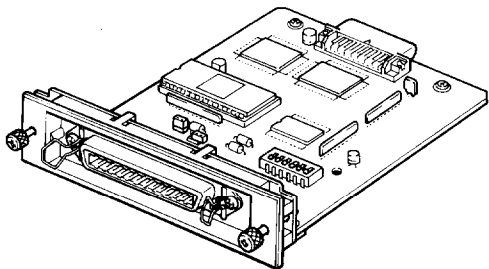
About this guide

This guide tells you how to install your C82310* interface card in a variety of Epson printers.

Also included are instructions on how to adjust the settings of the C82310* interface card, as well as a general description of parallel data communication.

The C82310* option package contains the following items:

C82310 * parallel I/F Card



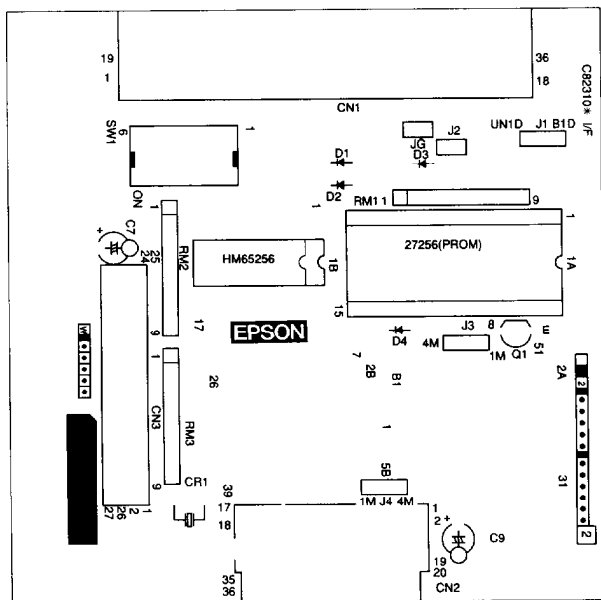
SETTING THE CONDITIONS

The C82310* interface card has two sets of DIP switches, and five jumpers. These switches and jumpers are used for selecting various interface operations.

Card layout

The figure below shows the layout of the C82310* card and the locations of the DIP switches and jumpers.

Figure 2. Card layout



DIP switch and jumper settings

Before you install the C82310* interface, you may need to adjust DIP switch 1 and jumper settings. You can change switch 2 settings after you install the interface.

When making DIP-switch setting changes, use a pointed device such as a ball-point pen or small screwdriver.

Caution

Always turn the power off before changing DIP-switch and jumper settings. New settings take effect when the printer is turned back on.

DIP switches

Setting DIP switches allows you to change interface functions. The two sets of switches are labeled SW1 and SW2. SW1 contains several individual toggle-type switches that can be set either on or off. The individual switches are referred to by set (SW1) and number. For example the switch in set SW1 marked by the small number 3 is called DIP switch 1-3.

DIP switch 1 (interface operations)

The table below contains information on switch functions, and the factory setting of each switch.

Table 1. DIP switch 1

SW pin No.	Function	ON	OFF	Factory setting
1-1	Buffer operation during OFF LINE state	Enable	Disable	OFF
1-2	Buffer operation enable/disable	Disable	Enable	OFF
1-3	Self test	Self-test mode	Normal operation mode	OFF
1-4	Data latch timing selection	Rising edge of STROBE	Falling edge of STROBE	OFF
1-5	SLCT signal	Not fixed	Fixed HIGH	OFF
1-6	Not used	—	—	—

Note

When DIP switch 1-1 is set to ON, the interface card can continue store data in the buffer memory even though the printer is in an OFF LINE or PAUSE state.

Switch 2

The table below contains information on switch 2.

Table 2. Switch 2

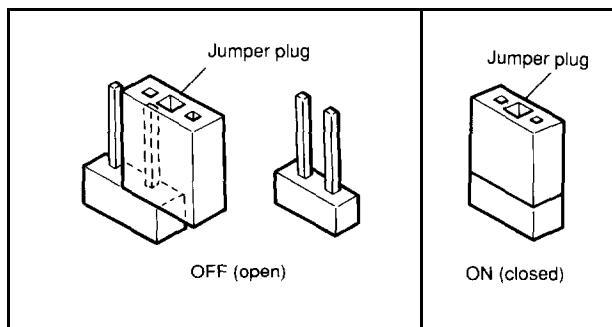
Function	ON	OFF	Factory setting
The I/F card enable/disable	Enable	Disable	ON

Some printers have a switch (or function) that allows you to select between the optional and original interface. If you install the C82310* interface card in this type of printer, set the interface card's DIP switch 2 to ON and also change the setting in the printer to select the optional interface.

Jumpers

A jumper is a small plug used for connecting or disconnecting a circuit. The jumper is on when the jumper plug covers both wires of the terminal. Jumper settings can be changed by either attaching or removing the rectangular jumper plug. If the jumper is to be turned off, connect it to only one of the two terminal pins as shown in the figure below. This prevents your losing the unused jumper plug.

Figure 2. Jumpers



The tables below describe the interface conditions that can be selected using jumpers. In all cases, ON means you connect the jumper (cover both terminals), while OFF means you disconnection of the jumper.

Table 3. Jumper settings

Jumper	Function	Factory setting
J1	Fixed (See Note)	—
J2	Fixed (See Note)	—
J3	Fixed (See Note)	—
J4	Fixed (See Note)	—
JG	ON: Connect chassis ground to signal ground	OFF

Note

J1, J2, J3, and J4 jumpers are connected at the factory; do not change these setting.

DATA ENTRY

About data entry

For quick data entry, the C82310* interface card is equipped with a buffer that temporarily stores data before it is printed. When this buffer becomes full, the interface card send a BUSY signal . (Reception of data during this state cannot be guaranteed.)

The data in the buffer is automatically sent to the printer when the printer indicates it is ready to accept more data.

SELF TEST

You can run the self test by first turning off the printer and then turning on DIP switch 1-3. When you turn the power back on, the self test begins. To exit from the self test, turn off the power and turn DIP switch 1-3 off.

The interface card first checks the RAM condition. After checking the RAM, data from <30>H to <39>H is sent to the printer and printed (the printout is only 80 columns wide).

Table 4. Self-test mode

SW1-3	
ON	Self-test mode
OFF	Normal operating mode

Note

It takes some time to check the RAM before test printing begins.

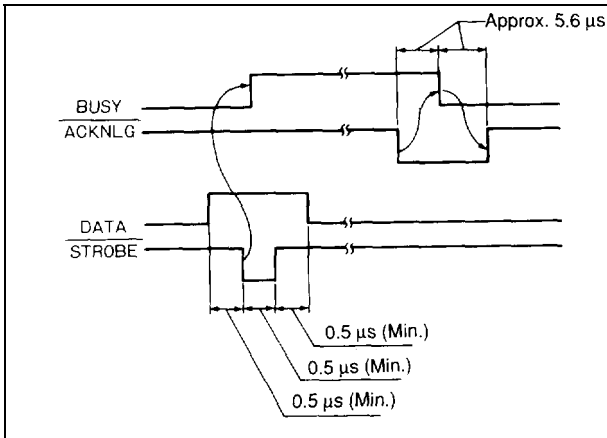
SPECIFICATIONS

1. Data transmission: 8-bit parallel
2. Synchronization: External supplied $\overline{\text{STROBE}}$ pulse
3. Handshaking: Via $\overline{\text{ACKNLG}}$ or BUSY signals
4. Logic level: TTL level
5. RAM capacity: 32 Kbytes
6. Connector: 57-30360 (Amphenol), 36 pin or its equivalent

Interface timing

The figure below shows the timing for the parallel interface.

Figure 3. Interface timing



HARDWARE DESCRIPTION

For signal description and pin assignment, refer to the table below:

Table 5. Signal description and pin assignment

Signal Pin	Return Pin	Signal	Direction	Description
1	19	STROBE	IN	The STROBE pulses to read data. Pulse width must be more than 0.5 μ seconds at the receiving terminal.
2	20	DATA 1	IN	These signals represent data in bits 1 to 8 of parallel data, respectively. Each signal is high when data is logical 1 and low when it is logical 0.
3	21	DATA 2	IN	
4	22	DATA 3	IN	
5	23	DATA 4	IN	
6	24	DATA 5	IN	
7	25	DATA 6	IN	
8	26	DATA 7	IN	
9	27	DATA 8	IN	
10	28	ACKNLG	OUT	About a 12- μ seconds pulse. Low indicates that data has been received and that the interface card is ready to accept more data. This signal is output paired together with a BUSY signal.
11		BUSY	OUT	A high signal indicates that the interface card cannot receive data. The signal goes high in the following cases: 1) During data entry (along with each character) 2) When OFF LINE (or PAUSE) 3) During printer-error state
12		PE	OUT	A high signal indicates that the printer is out of paper.

Signal Pin	Return Pin	Signal	Direction	Description
13	—	SLCT	OUT	A high signal indicates that the printer is in the selected state. The signal goes low in the following cases: 1) When the SLCT IN signal goes high 2) During a printer-error state 3) When the interface card is disabled This signal can be fixed to “high” with DIP Switch 1-5.
14	—	$\overline{\text{AUTO FEED XT}}$	IN	This function depends on printer specifications.
15	—	NC	—	Not used
16	—	GND	—	Twisted-pair, return-signal ground
17	—	CHASSIS GND	—	Printer's chassis ground, which is isolated from the logical ground
18	—	NC	—	Not used
19-30	—	GND	—	Twisted-pair, return-signal ground
31	—	$\overline{\text{INIT}}$	IN	When the signal level goes low, the printer controller and the interface card are reset. This signal level is usually high; its pulse width must be more than 50 μ seconds at the receiving terminal.
32	—	ERROR	OUT	This signal level goes low when the printer is out of paper or in an error state.
33	—	GND	—	Twisted-pair return signal ground.
34	—	NC	—	Not used

Signal Pin	Return Pin	Signal	Direction	Description
35	—	—	OUT	Pulled up to +5 V through 3.3 K Ω resistance.
36	—	$\overline{\text{SLCT IN}}$	IN	The DC1/DC3 code are valid only when this signal is high. (This signal can be fixed low by changing a DIP switch, jumper, or SelectType setting on the printer.) The printer monitors this signal, so this signal's function depends on the printer's specifications.

Note

- The column heading Direction refers to the direction of signal flow as viewed from the printer.
 - All interface conditions are based on TTL level. Both the rise and fall of each signal must be less than 0.2 μ seconds.
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INSTALLATION

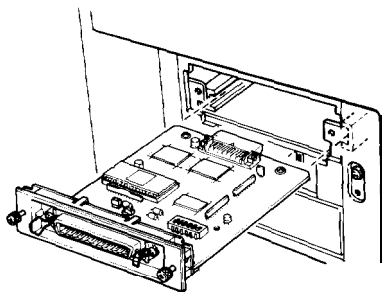
Installation or removal of the C82310* interface card is easy, and requires only a screwdriver.

The following section tells you how to install your interface card in a variety of EPSON printers.

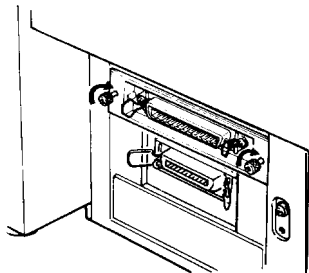
Caution

- Turn off the power to the printer and the computer before installing. Make sure that all power and interface cables are removed.
 - Avoid touching the printer's circuit board contacts; many components are sensitive to static electric charges that may build up on your body.
-

1. Adjust DIP-switch and jumper settings as necessary.
2. Align both sides of this card with the guides on the sides of the interface compartment.



3. Insert firmly until the interface pins mate with connector inside your printer.
4. Attach the two screws to secure the interface.



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